

while the abdominal parts are light yellowish. As they grow older they alter little.

4. Males a couple of years old or more become of a rich brown shade on the back and sides, and lighter or yellowish beneath. Old males alone are maned.

5. There is a sparse underwool on the young, which sensibly diminishes with age.

6. The skulls of the adult male and female differ considerably, the latter being comparatively the narrower of the two—the former possessing a somewhat different form of teeth, besides proportionally immense canines.

7. The teeth of *Otaria jubata* are occasionally subject to a peculiar wearing, of a median constricted character.

8. The sexes differ in size, the males attaining far the largest growth.

9. Between the female and male of this species there is a wide difference as regards the stretch of the pectoral flippers. In the skin of the male the breadth from tip to tip of the fore flippers is equal to or greater than the length of the body; in the female the reverse obtains. This fact points to greater strength and swimming-power in the former.

10. It appears that the Elephant-Seal (*Morunga elephantina*) is now only rarely met with in the Falklands.

11. The bones of the pectoral limb of the Fur-Seal of commerce (*Otaria nigrescens*, Gray) differ from those of the Sea-lion (*Otaria jubata*).

DESCRIPTION OF PLATE VII.

Fig. 1. Adult male *Otaria jubata*, from the skin No. 1. The abraded surfaces have not, however, been delineated.

2. Adult female of the same species, from the skin described as No. 2.

3. Young *Otaria jubata*, about four months old, referred to as No. 10 in the preceding list.

5. On a new British Nudibranch (*Embletonia grayi*).

By W. S. KENT, F.R.M.S.

(Plate VIII.)

The last October excursion to the Victoria Docks of the Quekett Microscopical Club afforded me the pleasure of capturing, in some quantity, a minute representative of the Nudibranchiate Mollusca.

It belongs to Alder and Hancock's genus *Embletonia*, which is characterized as follows:—"Head terminal, furnished with two flattened lobes, broadly expanded laterally. Tentacles two in number, linear. Branchiæ papillose, placed in a single or double row down each side of the back, alternating posteriorly." Three species are described by the authors above quoted, viz. *E. pulchra*, *E. minuta*, and *E. pallida*. Of these, *Embletonia pallida* is the most closely allied

to the species I here introduce, it being the only one possessing a double row of branchial papillæ down each side of the back.

In the species recently obtained from the docks, and for which I here propose the name of *Embletonia grayi*, the branchial papillæ are developed to a still further extent, three, in the adult specimens, entering on each side into the formation of the second anterior fasciculus*. The oral lobes, moreover, are highly developed, while in *Embletonia pallida* they are described as being small and indistinct. The lingual membrane, or odontophore, again, furnishes points of distinction, the median denticles surpassing the lateral ones in size more considerably than in *E. pallida*; and the odontophore in this respect more closely approximates to that of *Eolis nana*. The number of lingual plates also exceeds that possessed by *Embletonia pallida*, being not fewer than thirty-five, while in the latter there are said to be but twenty-one.

The colour of the little Mollusk is a semitransparent white, having the integument of the antero-dorsal region usually more or less sprinkled with minute ramifying pigment-cells of a blackish hue, these occasionally extending over the papillæ. The eyes are deeply sunk beneath the integument, and situated, some distance apart, immediately behind the tentacula; in many instances these organs are scarcely discernible, more especially in those specimens wherein the superficial pigment-cells are greatly developed.

It is particularly remarkable that this Nudibranch is a denizen of water containing but about one-third of the saline constituents of pure sea-water. Its habits are gregarious; and its tastes appear to be eminently carnivorous, the luxuriant masses of *Cordylophora lacustris* clothing the submerged timber-balks in the docks proving a special attraction, and serving not only for the purpose of food, but also as a suitable nidus whereon to deposit its spawn. The ova, or spawn, on being extruded are enveloped in a gelatinous mucus, adherent at first to any object wherewith it may be brought into contact; this property, however, disappears after a brief exposure to the surrounding medium. The spawn masses are of an irregular oval form, each mass containing from five or six to as many as forty or fifty ova.

On first leaving the egg the young are, in common with other Nudibranchiata, furnished with a delicate nautiloid shell, and propel themselves through the water with great activity by means of their ciliated lobes, or epipodia. Figs. 12 and 13 represent the animal about one month after quitting the egg; but further stages of development remain to be traced. The length of the adult animal varies from one to as much as three tenths of an inch, though the majority of the specimens examined have not exceeded that of two tenths of an inch.

* One or two specimens have been met with having three papillæ in the first anterior fasciculus also.

The arrangement of the papillæ also holds good in distinguishing this species from the *Calliopa bellula* of D'Orbigny, figured and described in the 'Mag. de Zoologie' for 1837.

EXPLANATION OF PLATE VIII.

- Fig. 1. *Embletonia grayi*, natural size.
 2. The same, magnified.
 3. The same, viewed dorsally when in a state of repose.
 4. The head, seen from above, showing the expanded oral lobes.
 5. A portion of the odontophore, viewed laterally.
 6. The same, from above.
 7. A single lingual plate detached and magnified 300 diameters.
 8. A mass of ova.
 9. First condition of the embryo on quitting the egg.
 10. The same having lost its ciliated lobes, or epipodia.
 11. The cast nautiloid shell.
 12 & 13. The embryo about a month old, showing at *a* the eyes, at *b* the auditory vesicles, and at *c* the heart.

February 11th, 1869.

Osbert Salvin, Esq., M.A., in the Chair.

The following extract was read from a letter addressed to the Secretary by Dr. John Anderson, C.M.Z.S., dated Calcutta, January 5th:—

“I have brought back a tolerably large collection from Yunan and Upper Burmah; but I had great difficulties to contend with, and it is not so large as I expected it would be. Once across the Kakhyen Hills, our road lay through paddy-fields in elevated valleys (4000 to 5000 feet), defined by long ranges of high mountains. It was unsafe to venture on the hills; so that my spoils are almost entirely derived from a cultivated country. *Ailurus* abounds; and two, if not three, species of *Manis* are very common. Pheasants are plentiful; and Western Yunan, on the very confines of Burmah, is apparently rich in *Thaumalea amherstiae*. If I could have ventured on the hills, I believe I could have made good bags of this splendid bird. On our way through the Shan states we saw its handsome tail-feathers very frequently in the hands of the natives, who use them as ornamental fly-switches. But all the information gained in the journey will be given in the Report which will be submitted to Government.”

Mr. W. B. Tegetmeier exhibited a pair of remarkably large horns of the Cape-Buffalo (*Bos caffer*), and two remarkable pairs of horns of the Domestic Goat.

Mr. William Jesse read the following Report to the Council of the Society upon his proceedings in connexion with the Abyssinian Expedition:—

GENTLEMEN.—It is with pleasure that I find myself in a position

to lay before you a sketch of my proceedings during my recent journey with the late expedition in Abyssinia.

I should first like to state that, my late arrival on the scene of action having prevented me from accomplishing anything like the work I wished to carry out, I eagerly seized upon an opportunity which presented itself, after the close of the campaign, of supplying the deficiencies thus occasioned.

I heard from Mr. W. T. Blanford, Geographer to the Expedition, that he, Capt. Mokeler (political officer), and Mr. Munzinger (H.B.M. Consul at Massowah) contemplated an excursion into the Bogos country; and I therefore wrote to the Consul begging his permission to make one of the party. This permission I subsequently received, and under these auspices found means to fulfil my mission more completely than I had anticipated.

On the 27th of January, 1868, I left England, and on the 24th of February we cast anchor in Annesley Bay. My arrangements on shore not being completed, I obtained a boat and crew from the Captain and started with a party to the head of the bay. I spent a couple of days here, examining the surrounding country and shooting. I procured specimens of the Naked-necked Francolin of the plains, one species of Hornbill, and a variety of other birds, the most important of which were eight specimens of the *Dromas ardeola*. These latter I especially wished to bring home, both as skeletons and in spirits. Unfortunately I could not carry out this intention, as, instead of returning safely in about two hours' trip to the 'Great Victoria,' we were nearly wrecked on the opposite shore; and the energies of our crew and selves were so severely tried by wind and rain that we with difficulty, and utterly exhausted, reached the fleet at the end of twenty-four hours. My specimens being spoiled, this was rather a discouraging commencement of my duties. I may here remark that I did not again obtain specimens of this bird until on my voyage home, at Suakim.

On the 27th I landed at Zoulla, and reported myself to General Stuart, there awaiting orders from the Commander-in-Chief. In a few days I received an intimation from his Excellency that I should find ample scope for my researches in the neighbourhood of Zoulla; it was, however, at that time impossible to prosecute them with any result, on account of the country being utterly devastated of wood and grass, offering but small opportunities for the zoologist. I obtained a few specimens, when an attack of sickness put an end to my endeavours, and compelled me to go on board the hospital ship. After some days I returned ashore; but in the course of a few hours I had a relapse, which induced me to leave the plain and move up towards the highlands. I was also disappointed in not meeting at Zoulla with the taxidermists Lieut. R. C. Beavan had given me reason to expect would be there; but before quitting the place I was fortunate enough to find a man who eventually proved of use to me in this department.

The country lying between the sea and the foot of the hills at Koomayli was of the most barren description—to the seaward sandy,

and nearer the hills broken ground, bearing, at the period of which I speak, but few traces of vegetation beyond those of low thorny mimosas and a stunted species of cypress. The plain is intersected by dry watercourses, running from the hills towards the sea. The presence of salt in the soil is to be detected from the sea even up to Koomayli. Along the seashore are belts of mangroves, affording shelter for many species of waterfowl. About an hour's ride from Zoulla towards the head of the bay are some hot springs, near a large grove of tamarisks. It was at this place I found spoor and dung of Elephants, three species of Antelope, and one of Bustard. The tenants of these barren districts, as far as I could ascertain, are Elephants (during the wet season), three species of Antelope, Wart-Hogs, a small Hare, one species of Hyena (probably the spotted), one of Jackal (probably *Canis anthus*), a Jungle-Cat (supposed to be identical with the Syrian Cat, of which I obtained a female and cubs), also a Jerboa-like Rodent. Scorpions are here numerous and large. For further details I shall refer to my collections at a later date. The character of the fauna of the plains is migratory, changing almost monthly from the hills to the plains, and *vice versa*.

Proceeding up the passes, the only object worthy of special notice was the curious Rodent named by Mr. Blyth *Pectinator spekii*, the existence of which was made known to me by Mr. Blanford, and of which I obtained specimens. I should have procured more specimens had not my taxidermist fallen ill with fever, and my own health continued far from good.

On arriving at Senafe I made that place my headquarters; and health rapidly improving, I set to work in the surrounding neighbourhood. Here, on one of my excursions, a companion who had separated from me was robbed of one of my rifles, and returned to camp stripped. Unfortunately, this happening out of my reach, I lost the opportunity of procuring a skeleton of one of the inhabitants for our investigation in England. From Senafe I made a short trip to Addigerat, adding somewhat to my collection.

The rapid and successful termination of the Abyssinian campaign brought my labours to an unexpected close; but I continued working until Lord Napier's return to Senafe obliged me to return.

I here found the list of birds numerically increased. About Senafe and Rareguddi the "Koodoo," or "Aggaziu" (*Strepsiceros kudu*), was found in small herds, and a fine young buck came into my possession alive—a present to the Society from Dr. Knapp, surgeon to the 25th Bengal Native Infantry. Unfortunately, two consecutive attacks of dysentery reduced the animal to such a state of weakness that it was impossible to save it—a fact which I much regretted, as I believe at that time the Society did not possess a specimen alive in their gardens. The "Klipp-springer" Antelope existed in these regions; and the "Beni-e-Israel" Antelope I found in the valleys at the back of Senafe, as also the "Wart-Hog."

Two species of "Ground-Squirrel," one striated, the other not, and one species of Ichneumon came under my notice up the passes.

On the hills in the neighbourhood of Senafe I found another

species of Hare, about equal in size to a threequarter-grown English Leveret, and of the same colour. A small sandy, strong-haired Rat I also procured a specimen of, which was unavoidably lost.

On the return journey I spent a few days at Undel Wells, with a view of obtaining a more specific knowledge of the fauna of that elevation, having reason to believe it differed materially from that of the higher and lower zones. I did not, however, obtain much satisfactory information until my subsequent trip, at a later date, into Northern Abyssinia.

I arrived with the rearguard at Zoulla, where, after having made some additions to my collection, I prepared seven cases to be sent to England. As I have before stated, I obtained permission from H.B.M. Consul at Massowah to join him, Capt. Mokeler, and Mr. Blanford in an expedition into the Bogos country, which, although already explored by Brehm and Heuglin, I thought worthy of attention. Had opportunity offered, I should, in accordance with my instructions and my own wishes, have visited the country towards lake Assal. During the third week in June we were occupied in preparing for our proposed trip. We sent our baggage and provisions round to Massowah by buggalow, and our animals by land. We ourselves started on board the 'General Havelock' for Massowah, where we had to remain a few days arranging our affairs.

On the 22nd of June we left Massowah for the mainland, assembling our caravan at about four miles distance, at Monkooloo, and started the next morning with 38 camels, 8 horses, and about 30 men. We halted at Sahati, *en route* for Ailet, and heard there of Lions, but found no traces of them, so proceeded to Ailet the following day. Our camp here was situated on the banks of a wild nullah, watered by a hot spring at no great distance. This place is noted but too truly for its man-eating Lions and Panthers. It is a legend in the village "that no man dies in his bed." During one or two days I accompanied Capt. Mokeler (Mr. Blanford being lame) in pursuit of a lioness, tracks of which we had seen close to our tent, but with no success, Capt. Mokeler only obtaining one shot, which was without effect.

On the 27th of June, after some premonitory symptoms, I received a sunstroke, which completely put an end to my researches. My friend Mr. Blanford was more fortunate, and laid the good foundation of his subsequent collection. On the 29th, at about 12 o'clock at night, I was awoke from a sick bed, along with my companions, by shrieks of the most fearful kind. It was pitch dark; and we rushed out of our tents with our arms in our hands, to find our followers in a state of most dire terror and confusion, filling the air with cries of "the Lion, the Lion;" and then a dusky form was seen to bound away over the thorn fence and disappear in the darkness. After having in some degree quieted the fears of our people, we called the roll, and found that one of my gun-bearers, a Shunk-galla of huge proportions, lay dead in the midst of us, his throat bearing but too terrible marks of the manner in which the poor fellow had perished. I may add that, only the night before, Mr. Blanford's butler had been severely wounded in the head by the claws

of what we supposed to be a Panther. These brutes had passed by our camels, horses, milch-goats, and fires without harming anything. In the morning, after a useless search for the brute of the preceding night, on which we naturally desired to wreak our vengeance, we buried the poor victim, covered him with a pile of stones, and left for Asoos. From here we started the same day, and halted at Kooserit.

On the 31st we left Kooserit, and, halting at Anagully, arrived in the evening at Kanzal, where I managed to stroll out, but I was still very ill. I fired at two Panthers without effect. At 6 p.m. on the 4th of July we started across the desert to Ain, on the river Lebka, which rises in the hills and flows across the plains to the sea. I stopped to look at a Bedouin village, consisting of about 100 mat huts. The inhabitants were a portion of nomad tribes which pasture their flocks, during the wet season, on the coast, moving up towards the highlands as the pasturage fails. We passed through the Ostrich-country, but we did not see any. During the night, the moon being up, we saw several herds of Antelopes.

We arrived at Ain at about 10 o'clock. In the afternoon I went out, and succeeded in procuring some specimens. This place is very prettily situated, forming quite an oasis in the desert. A bright stream runs through grass and high reed jungle, bordered with tamarisks and other trees; a background of rugged barren hills, rising tier above tier, enhances the beauty of the scene.

On the 7th of July we left Ain for Mahabar; and when there I began to regain my health. Between Ain and Mahabar we found spoor of Elephants, evidently in a state of migration from the lowlands to the highlands. At Mahabar I added considerably to my collection, particularly by specimens of a small hawk, which I take to be the *Nisus sphenurus* of Rüppell. Mr. Blanford obtained several. The night before our arrival a native had been killed by a Lion. The animal left his track by the waterside, and it was taken up by Mr. Blanford and Capt. Mokeler without effect. I took up the track of a solitary Elephant with a like result. At 5 o'clock a.m. the next day we continued our march, halting at Gelamet for lunch, and arrived at 6 p.m. at Kokai, or the City of the Lions. Between Gelamet and Kokai the scenery improved greatly, exchanging rather stunted tamarinds and barren mimosas for the baba tree, or *Adansonia*, the cactus-like *Euphorbia*, and a dense jungle, with a strong undergrowth of rank grass and aloes.

Here the climate was truly European, and, indeed, at night intensely cold. The fauna began to show the peculiarities which I had expected at Undel Wells, and in which I was disappointed; the transition was so sudden that on the first day I procured three species of "Roller," a Parrot, and several other birds.

The next morning we found on inquiry that Elephants were in the neighbourhood; so, having supplied my taxidermist with materials for his day's work, I joined Capt. Mokeler and Mr. Blanford in an excursion in search of them.

I remained two days longer in this neighbourhood collecting with success, and then proceeded over the pass to Bejook on the river

Anseba. Here I had a good week, securing many specimens I had hitherto failed to obtain. On the 14th of July we went out in pursuit of a Rhinoceros we had heard of the day before, and which Mr. Blanford and I had the good fortune to shoot. The next morning I went out with my attendants and *posse comitatus* of natives, to bring in the skeleton, and on arriving at the place I witnessed a scene precisely similar to that described by Sir Samuel Baker as taking place over the carcass of a Hippopotamus:—women, old and young, the former hideous, scratching, screaming, and fighting over the entrails, pulling furiously at these or at one another's hair, it mattered not which so that possession of the prey was secured; the men jabbering like jackals, fighting with sticks and knives, one and all knee-deep in filth and blood; so that between them, in about four hours, the skeleton was utterly bared of meat and skin, leaving not an atom for the Vultures.

On the 18th we had the first earnest of the rainy season, which was ushered in by a terrific storm of rain and hail, some of the hailstones being as large as small walnuts. The Anseba, an affluent of the Barca, from a dry bed with an occasional waterhole became a splendid river, varying from 50 to 100 yards in width, and flowing between banks of dense jungle and fine forest trees. The spoor of Elephants, Black Rhinoceros, and Lions were plentiful along the banks, so much so as to give the appearance of a place frequented by giant rabbits. The valley here varied from 15 to 20 miles in width, the jungle and forest limiting itself to about a couple of miles on each side. The remainder of the ground was stony and barren, rising gradually towards the hills, and intersected by numerous nullahs running into the Anseba. Here we came in for a glimpse, on two occasions, of another species of Antelope, slightly larger than the "Beni-e-Israel." Unfortunately I had but a momentary view of it, and never succeeded in obtaining a specimen. On the 19th we left Bejook for Waliko, seeing on the road plenty of spoor of Elephants and Rhinoceros; from the dung of the latter I collected a few Coleoptera. While at Waliko, finding a great scarcity of birds, I followed up more closely the tracks of the Rhinoceros, passing through very dense jungle that is never penetrated by sun or air, by means of their paths, which are from 2 to 3 feet broad, and formed like galleries in a mine, about four feet high—and so entering their dens, which are very curious, having the appearance of immense arbours; they vary in size from 13 to 20 feet square, and have in some cases a smaller retreat adjoining.

On the 24th, Mr. Blanford and I went out birding, and came upon fresh tracks of two Lions; they had followed Elephants' spoor for over two miles. The herd consisted of three old ones and a young one. The next day we left for Maraguay, where Capt. Mokeler shot a doe Koodoo, and I procured a few birds, one species of "*Indicator*." Mr. Blanford obtained a new Kingfisher, of which I also secured a specimen the next day. I also shot a pair of fine Ground-Hornbills (*Bucorax abyssinicus*), which I prepared as skeletons. The rains having set in, and the term of our excursion

drawing to a close, we left Maraguay on the 31st of July on our return journey. When I arrived at Waliko, to which place Capt. Mokeler had preceded us, I found that he had been charged by a herd of some twenty Elephants, and had been forced to make good his escape into a tree, after hard running, and having left a bullet in the head of a large bull. At a later date I found myself in the same disagreeable predicament, and under a like disagreeable necessity. At Waliko I found two species of crested Cuckoo and the English Cuckoo. I also obtained a Bateleur Eagle, two species of Tortoise, and a small Squirrel. I must here state that Waliko is not, as represented in the map, on the right side of the river, but on the left, running down stream. From here we crossed over to Gabena Weld Gonfallon, or the River-plain, where Mr. Blanford and Capt. Mokeler killed a Rhinoceros. We returned by the old route to Kokai and Gelamet, and then branched off to Rairo; here we stopped two days collecting. On the 15th of August we moved on again to Mombarharatby, where we killed a Lioness, one out of four, the others running away,—from this place to Ain (where we reentered our former route), which we quitted on the 17th of August for Amba and Mai Wallet. Mr. Blanford and I stayed in Amba from the 19th to the 21st, trying to obtain specimens of the "*Oryx beisa*." I unfortunately did not even see one; Mr. Blanford procured four specimens. We went from Amba to Massowah, which I left on the 27th for England.

I append a list of my collections, full information relative to which will appear at a later date:—

Skins of mammals, about	24
Skull of an aboriginal	1
Skull of African Elephant	1
Skeleton of Rhinoceros	1
Hcads of Antelope	3
Skeletons of other mammals, about . .	8
Skins of birds, about	750
Birds and Mammals in spirit, about . .	20
Reptiles in spirit, about	6
Tortoises and Lizards, about	6
Fish, about	30
Crustacea, about	50
Lepidoptera, about	150
Coleoptera, about	200
Total number of specimens, about . .	1250

The following living specimens were also forwarded to the Zoological Society from Zoulla:—

Young Wild Cats *	2
Jerboa-like Land-Rats	2
Guinea-fowls	2

* These were the only specimens forwarded by Mr. Jesse that reached the Society alive. They were the young of *Felis maniculata*, Rüppell.—P. L. S.